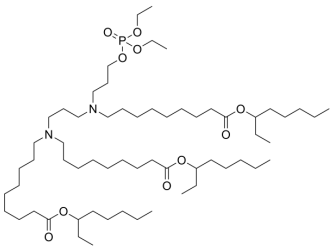
Phospholipid PL1

Cat. No.:	HY-151506
CAS No.:	2274812-94-9
Molecular Formula:	$C_{61}H_{121}N_2O_{10}P$
Molecular Weight:	1073.59
Target:	Liposome
Pathway:	Metabolic Enzyme/Protease
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description

Phospholipid PL1 is a phospholipid-derived nanoparticle, can deliver costimulatory receptor mRNA (CD137 or OX40) to T cells. Phospholipid PL1 could induce the activation of various immune cells, including T cells and dendritic cells (DCs) in order to boost antitumor immunity[1].

In Vivo

Phospholipid PL1 (10 μg mRNA/mouse; i.t.; 6 times every other day; for 60 d) improves the immunotherapy with an anti-CD137 Ab and antitumor activity with an anti-OX40 Ab in tumor models with better results obtained in the B16F10 melanoma model than the A20 lymphoma model[1].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	B16F10 melanoma mouse model and A20 lymphoma mouse model (C57BL/6 mice)[1]
Dosage:	Administration of PL1-CD137 + anti-CD137 Ab; PL1-CD137 (10 μg mRNA/mouse), and anti-CD137 Ab (16 μg/mouse)
Administration:	Intratumoral injection; 6 times every other day; 60 days
Result:	Dramatically decreased the tumor growth rate by 5-fold (18 days after inoculation), and increased the overall survival time in B16F10 melanoma model. Resulted in a 2-fold decrease in the tumor growth rate (18d after inoculation) in A20 lymphoma model, without significant extension in the overall survival time.

Animal Model:	B16F10 melanoma mouse model and CT26 colon carcinoma mouse model (C57BL/6 mice)[1]
Dosage:	Administration of PL1-OX40 + anti-OX40 Ab; PL1-OX40 (10 μg mRNA/mouse), and anti-OX40 Ab (8 μg/mouse)
Administration:	Intratumoral injection; 6 times every other day; 60 days
Result:	Significantly decreased the tumor growth and prolonged survival in comparison to treatment with PBS and PL1-OX40 + anti-OX40 Ab in both tumor models.

REFERENCES

[1]. Li W, et al. Biomimetic nanoparticles deliver mRNAs encoding costimulatory receptors and enhance T cell mediated cancer immunotherapy. Nat Commun. 2021 Dec 14;12(1):7264.

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